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ny lights, there appeared a variety of reflected images beside the principal object viewed, which occasioned some confusion. This arose from a combination of reflections between the two surfaces, which, in consequence of the degree of difference of their curvatures, occasioned a distinct image to be formed on the retina after two reflections. M. Cauchoix has, however, happily succeeded in removing this inconvenience altogether, by making the inner surface of the glasses less concave† than he did at first, so that whatever light may enter the eye after reflection is no longer brought to a focus, and consequently is not perceived. We have then a larger field of view than with common spectacles, without introducing any new inconvenience.

During the last three months M. Cauchoix has made trial of these spectacles on a great number of persons, and even upon one so short-sighted that he could not see beyond two inches and a quarter, which is certainly a case of extreme short-sightedness. All these persons agree in making the same favourable report. The trials made by elderly persons requiring the assistance of convex glasses have also been attended with just the same success.

I am the more particular in noticing these trials of some months continuance, because it is by continued trial alone that we can be certain of the goodness of spectacles, and in general of optical instruments that do not magnify much. The eye has a certain flexibility, and power to accommodate itself for a short time to a glass that does not quite suit it. But if the same degree of effort is to be long continued, the eye tires, and complains of an imperfection that was not at first perceptible.

It appeared to me that so decided an improvement upon an instrument generally used, and indeed so necessary to many persons, deserved some public notice; and I advise those who ever use spectacles to make trial of these. If they are as well satisfied as I have reason to expect, they will derive a further gratification from reflecting that the science which thus adds to our enjoyment of the objects immediately around us, is the same that has made us acquainted with the remotest parts of our solar system, and given us some conception of the extent of the Universe.

(Signed) Biot.
Member of the Imperial Institute.

Hints respecting the proper mode of inuring tender plants to our climate; by the Hon. Sir Joseph Banks, Bart. K.B. P.R.S., &c.

(From the Transactions of the Horticultural Society of London.)

Respectable and useful as every branch of the horticultural art certainly is, no one is more interesting to the public, or more likely to prove advantageous to those who may be so fortunate as to succeed in it, than that of inuring plants, natives of warmer climates, to bear without covering, the ungenial springs, the chilly summers, and the rigorous winters, by which, especially for some years past, we have been perpetually visited.

Many attempts have been made in this line, and several valuable shrubs, that used to be kept in our stoves, are now to be seen in the open garden; there is, however, some reason to believe, that every one of these was originally the native of a cold climate, though introduced to us through the medium of a warm one; as the gold tree, Aucuba japonica, the moutan, Pæonia frutescens, and several others have been in our times.

In the case of annuals, however, it is probable, that much has been done by our ancestors, and something by the present generation; but it must be remembered, that all that is required in the case of an annual, is to enable it to ripen its fruit in a comparatively cold summer, after which, we know that the hardest frost has no power to injure the seed, though exposed in the open air to its severest influence; but a perennial has to encounter frosts with its buds and annual shoots, that have been sometimes so severe with us, as to rend asunder the trunks of our indigenous forest trees.*

It is probable, that wheat, our principal food at present, did not bring its seed to perfection in this climate, till hardened to it by repeated sowings; a few years ago, some spring wheat from Guzerat was sown with barley, in a well cultivated field: it rose, eared, and blossomed, with a healthy appearance, but many ears were when ripe wholly without corn, and few brought more than three or four grains to perfection.

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† As they have been made from the first by Messrs. Dollond.

* See Miller's Dictionary, article Frost.

In the year 1791, some seeds of Zizania aquatica were procured from Canada, and sown in a pond at Spring-Grove, near Hounslow; it grew, and produced strong plants, which ripened their seeds; those seeds vegetated in the succeeding spring, but the plants they produced were weak, slender, not half so tall as those of the first generation, and grew in the shallowest water only; the seeds of these plants produced others the next year sensibly stronger than their parents of the second year.

In this manner, the plants proceeded, springing up every year from the seeds of the preceding one, every year becoming visibly stronger and larger, and rising from deeper parts of the pond, till the last year, 1804, when several of the plants were six feet in height, and the whole pond was in every part covered with them as thick as wheat grows on a well-managed field.

Here we have an experiment which proves, that an annual plant, scarce able to endure the ungenial summer of England, has become in fourteen generations as strong and as vigorous as our indigeneous plants are, and as perfect in all its parts as in its native climate.

Some of our most common flowering shrubs have been long introduced into the gardens; the Bay tree has been cultivated more than two centuries; it is mentioned by Tusser, in the list of garden plants inserted in his book, called, "500 Points of good Husbandry," printed in 1573.

The Laurel was introduced by Master Cole, a merchant, living at Hampstead, some years before 1629, when Parkinson published his Paradisus Terrestris, and at that time we had in our gardens Oranges, Myrtles of three sorts, Lauristinus, Cypress, Phillyrea, Alaternus, Arbutus; a Cactus brought from Bermudas, and the Passion flower, which last had flowered here, and showed a remarkable particularity, by rising from the ground near a month sooner if a seedling plant, than if it grew from roots brought from Virginia.

All these were at that time rather tender plants: Master Cole cast a blanket over the top of his Laurel in frosty weather to protect it, but though nearly two centuries have since elapsed, not one of them will yet bear with certainty our winter frosts.

Though some of these shrubs ripen their seeds in this climate, it never has been, I believe, the custom of gardeners to sow them; some are propagated by suckers and cuttings, and others by imported seeds: consequently, the very identical laurel introduced by Master Cole, and some others of the plants enumerated by Parkinson, are now actually growing in our gardens; no wonder then, that these original shrubs have not become hardier, though probably they would have done so, had they passed through several generations, by being raised from British seeds.

Is it not then worthy a trial, as we find that plants raised from suckers or cuttings do not grow hardier by time, and as the experiment on Zizania points out the road, to sow the seeds of these and such like tender shrubs as occasionally ripen them in this climate. Fourteen generations, in the case of the Zizania, produced a complete habit of succeeding in this climate, but a considerable improvement in hardiness was evident much earlier.

In plants that require some years to arrive at puberty, fourteen generations is more than any man can hope to survive; but a much less number will in many cases be sufficient, and in all, though a complete habit of hardihood is not attained, a great progress may be made towards it in a much less time; even one generation may work a change of no small importance; if we could make the Myrtle bear the climate of Middlesex, as well as it does that of Devonshire, or exempt our laurel hedges from the danger of being cut down by severe frosts, it would be an acquisition of no small consequence to the pleasure of the gentleman, as well as to the profit of the gardener.

Old as I am, I certainly intend this year [1805] to commence experiments on the Myrtle and the Laurel: I trust, therefore, it will not be thought presumptuous in me to invite those of my brethren of this most useful Society, who are younger than I am, and who of course will see the effect of more generations than I shall do, to take measures for bringing to the test of experiment the theory I have ventured to bring forward, I hope not without some prospect of success.

The settlement lately made at New Holland gives a large scope to these experiments; many plants have been brought from thence which endure our climate with very little protection, and some of these arrive at puberty at an early period; we have already three from the South point of Van Diemen's Island, where the climate cannot be wholly without frost: Mimosa Verticillata, Eucalyptus Hirsuta, and Obliqua. The first of these appears to have produced flowers within eight years of its first introduction, but as a settlement is now made very near the spot where the seeds of these shrubs were collected, we may reasonably hope to receive further supplies, and, among them, the Winterana Aromatica, an inhabitant of the inhospitable shore of Terra del Fuego, which Mr. Brown has discovered on the South part of Van Diemen's Island also.

Method of Bleaching Thread with Charcoal; by M. Juch.

(From Archiv. fur die Pharmacie)

M. Juch boils some skeins of thread in the accustomed manner, with sifted ashes, to separate the extractive substance. When the thread is dry again, he boils one of the skeins (or 1400 ells of thread) with three ounces of charcoal powder, for an hour, in a sufficient quantity of water. After which, when the thread is washed and dried, it will be of a much superior white than can be given to that which is heated with ashes only.

LIST OF NEW PUBLICATIONS.

BIOGRAPHY.

A CORRECT Memoir of General Moreau; including an impartial statement of all his campaigns; to which is added, a fac-similie of his last letter to Madame Moreau, an engraving of his retreat across the Rhine, and the siege of Kehl; and a portrait; by John Philippart, Esq, 14s. bds.

Some details concerning General Moreau in his last moments, followed by a short Biographical Memoir, and a fine portrait; by Paul Svinine, 5s. 6d.

The Travels and Memoirs of Sir John Reresby, Bart.; ornamented with 40 portraits, £.3 5s.

BOTANY.

Flora Americæ Septentrionalis; or, a systematic arrangement and description of the plants of North America; collected during 12 years travels and residence in that country; by Frederic Purser: with 24 engravings, £2 12s. 6d.

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For England, ho! a new melo-dramatic opera; by J. Pocock, Esq. 2s.

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The Juvenile Correspondent; or, Scriptural and Moral Instructor; for the use of schools; by a preceptor of youth, 4s.

View of the System of Education at present pursued in the schools and universities of Scotland; by the Rev. M. Russel, A.M. 6s.

The Promoter of Expedition and Ease; a Copper-plate Ciphering Book, with the sums set on a new system lately discovered, whereby the Tutor is relieved from the trouble of casting the sums, and is therefore enabled to devote that considerable portion of time to the greater advantage of his pupils, in illustrating the examples: with the above was published, price 1s., An Explanatory Key, bound separate for the use of the Tutor; by Thomas Harvey, Land Surveyor, 4s. 6d.

GEOLOGY.

Essay on the Theory of the Earth; translated from the French of M. Cuvier, perpetual Secretary of the French Institute, Professor and Administrator of the Museum of Natural History, &c.; by Robert Kerr, F.R.S. and F.A.S. Edin. With Mineralogical Notes, and an account of Cuvier's Geological Discoveries, by Professor Jameson, 8s.